WHAT IS CLAIMED IS:

1. An optical component for reflecting radiation, comprising:

a prism of a material transparent at the wavelength of the radiation to be reflected, said prism having first, second, and third plane faces; and

wherein said first and second faces are oriented perpendicular to each other and said third face is inclined at an angle α to said first face and at an angle ω to said second face, where α is about $135° - \theta_B$, ω is about $\theta_B - 45°$ and where θ_B is the external Brewster angle for the material of the prism at the wavelength of the radiation.

2. The method of claim 1, wherein the radiation wavelength is 193 nm, the prism material is calcium fluoride, and θ_B is about 56.34°.

3. The method of claim 1, wherein the radiation wavelength is 244 nm, the prism material is fused silica, and θ_B is about 56.50°.

4. The method of claim 1, wherein said prism is a truncated triangular prism.

5. A method of turning a beam of radiation through an angle of 90 degrees, comprising:

providing a prism of a material transparent at the wavelength of the radiation to be reflected, said prism having first, second, and third plane faces, said first and second faces being oriented perpendicular to each other and said third face being inclined at an angle α to said first face, where α is about $135° - \theta_B$, and where θ_B is the external Brewster angle for the material of the prism at the wavelength of the radiation; and

directing said beam of radiation into said prism via said first face thereof at an incidence angle θ_B to said first face in an incidence plane perpendicular to said first face, whereby said radiation beam in said prism is reflected from said third face thereof by total internal reflection and exits said prism via said second face thereof at

an incidence angle θ_B to said second face and at an angle of 90 degrees to said radiation incident on said first face.

6. The optical component of claim 5, wherein the radiation wavelength is 193 nm, the prism material is calcium fluoride, and θ_B is about 56.34°.

7. The optical component of claim 5, wherein the radiation wavelength is 244 nm, the prism material is fused silica, and θ_B is about 56.50°.

8. The method of claim 5, wherein the radiation is polarized in the plane of the turning angle.

9. The method of claim 5, wherein said prism is a truncated triangular prism.

10. A method of turning a beam of radiation through an angle of 90 degrees, comprising:

providing a prism of a material transparent at the wavelength of the radiation to be reflected, said prism having first, second, and third plane faces, said first and second faces being oriented perpendicular to each other and said third face being inclined at an angle ω to said second face, where ω is about θ_B, - 45°, and where θ_B is the external Brewster angle for the material of the prism at the wavelength of the radiation; and

directing said beam of radiation into said prism via said second face thereof at an incidence angle θ_B to said second face in an incidence plane perpendicular to said second face, whereby said radiation beam in said prism is reflected from said third face thereof by total internal reflection and exits said prism via said first face thereof at an incidence angle θ_B to said first face and at an angle of 90 degrees to said radiation incident on said second face.

11. A method of turning a beam of radiation of a predetermined wavelength through an angle of 90 degrees using a prism comprising:

providing a prism having a opposed first and second faces and a third face connecting the first and second faces; and

directing the beam of radiation into one of the first face or the third faces at Brewster's angle and causing the beam to be refracted and then reflected by total internal reflection at the second face and exiting the prism via the other of the first or third faces at Brewster's angle, with the angles of the prism faces with respect to each other being selected so that the angle at which the beam exits the prism is about 90 degrees offset from the angle at which the beam enters the prism.